REMARKS

Claims 1 - 91 are pending in the application.

Claims 1 - 91 stand rejected.

Claims 1, 3, 12, 15, 17, 18, 21, 22, 23, 24, 27, 33, 39, 42, 43, 48, 49, 69, and 73 - 75 have been amended.

Claims 20, 36, 71, and 72 have been cancelled.

Appreciation is expressed for the telephonic interview conducted on April 29th, 2003 between Examiner Vortman and John C. Kennel, Applicants' attorney. During the interview, the rejection to claims 49 – 68 under 35 U.S.C. § 112, second paragraph was discussed and Examiner Vortman agreed to withdraw this rejection. Appreciation is expressed to Examiner Vortman for the withdrawl of the § 112, second paragraph rejection.

Also discussed during the telephonic interview was the application of U.S. Patent No. 5,572,181, Kiryu et al. to claim 3. While no agreement was reached during the interview, the undersigned believes this response to be in harmony with the positions expressed during the interview.

Claims 1 – 91 stand rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,572,181, Kiryu et al. ("Kiryu"). Applicants respectfully traverse this rejection.

Kiryu does not teach

> at least a portion of the dielectric material is positioned between an area bounded by said fuse element in a substantially non-linear form

and a line connecting two ends of the fuse element, and
the fuse element is separated from said portion of the dielectric material by a space along a length of said fuse element,

as required by amended independent claim 1, and as generally required by amended independent claims 18, 33, 49, and 69.

The last paragraph of page 3 of the February 26th, 2003 Office Action (the "Office Action") asserts that the "at least a portion of the dielectric material is positioned between an area bounded by said fuse element in a substantially non-linear form and a line connecting two ends of the fuse element" limitation is taught in Kiryu. Specifically, the Office Action states that Kiryu discloses "a portion (13) of dielectric material (13,14) positioned between an area bounded by the prepared fuse element (12) and a line connecting the at least two end caps (11)" (Office Action, page 3).

Applicants acknowledge that Kiryu teaches a resin positioned between an area bounded by the fuse element in a substantially non-linear form and a line connecting two ends of the fuse element. However, Applicants respectfully assert that Kiryu does not teach the fuse element is separated from the resin by a space along a length of the fuse element. In fact, Kiryu discloses that the fuse element is suspended in the resin. Applicants have amended independent claims 1, 18, 33, 49, and 69 to emphasize this distinction over Kiryu.

Accordingly, Applicants respectfully submit that independent claims 1, 18, 33, 49, and 69 are allowable. Claims 2 – 16 depend form claim 1 and are allowable for at least these reasons. Claims 19 and 21 – 32 depend from claim 18 and are allowable for at least these reasons. Claims 34 – 35 and 37 – 48 depend from claim 33 and are allowable for at least these

reasons. Claims 50 – 68 depend from claim 49 and are allowable for at least these reasons. Claims 70 and 73 – 91 depend from claim 69 and are allowable for at least these reasons.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5080.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 1, 2003.

John C Kennel — 5/1/03

Attorney for Applicant(s) — Date of Signature

Respectfully submitted,

John C Kennel

John C. Kennel
Attorney for Applicants
Reg. No. 48,562
(512) 439-5080 [Phone]
(512) 439-5099 [Fax]

VERSION WITH MARKINGS TO SHOW CHANGES MADE

The following is a "Marked Up" version showing the changes that the accompanying submission makes to the Specification and/or Claims of Serial No. 09/982,733:

In the Claims

1. (**Amended**) A fuse assembly comprising:

a fuse element prepared in a substantially non-linear form, the fuse element comprising at least two terminals, the at least two terminals comprising a first terminal and a second terminal;

at least two conductive endcaps being coupled to the first terminal and the second terminal; and

a fuse body comprising a dielectric material adapted to substantially enclose the fuse element between the at least two endcaps, wherein

at least a portion of the dielectric material is positioned between an area bounded by said fuse element in a substantially non-linear form and a line connecting two ends of the fuse element, and

the fuse element is separated from said portion of the dielectric material by a space along a length of said fuse element.

~~the fuse element being capable of experiencing arcing as a result of an opening being created in at least a portion of the fuse element,~~

~~the opening having two ends, the dielectric material forces arcing between the two ends to traverse a path consistent with the non-linear form~~.

3. (**Amended**) The fuse assembly of claim 1, wherein at least a portion of the dielectric material is positioned between an area bounded by the fuse element in a substantially non-linear form and a line connecting the two ends **the fuse element is capable of experiencing arcing as a result of an opening**

being created in at least a portion of the fuse element,

the opening having two ends, the dielectric material forces arcing between

the two ends of the opening to traverse a path consistent with the non-linear form.

12. **(Amended)** The fuse assembly of claim ~~1~~ **3**, wherein forcing the arcing between the two ends **of the opening** to traverse the path introduces an increased amount of dielectric separation.

15. **(Amended)** The fuse assembly of claim ~~1~~ **3**, wherein the opening is caused by passing an excessive current through the fuse element, the excessive current causing a meltdown of at least a portion of the fuse element.

17. **(Amended)** The fuse assembly of claim ~~1~~ **3**, wherein creating the opening in the fuse element causes an arc, the arc being formed between the two ends.

18. **(Amended)** A method of reducing footprint of a fuse element, the method comprising:

preparing the fuse element in a substantially non-linear form, the fuse element comprising at least two terminals, the at least two terminals comprising a first terminal and a second terminal, the footprint being reduced by adjusting distance between the first terminal and the second terminal;

coupling the fuse element between at least two conductive endcaps coupled to the first and second terminals;

enclosing the fuse element in a dielectric material**, wherein**

at least a portion of said dielectric material is positioned between an area bounded by said fuse element in a substantially non-linear form and a line connecting two ends of the fuse element, and

said fuse element is separated from said portion of said dielectric material by a space along a length of said fuse element.

Claim 20 has been cancelled.

21. **(Amended)** The method of claim ~~20~~ **18**, wherein the at least portion of the

dielectric material comprises a superior dielectric material.

22. **(Amended)** The method of claim ~~20~~ **18**, wherein the substantially non-linear form is consistent with a shape of the at least portion of dielectric material.

23. **(Amended)** The method of claim 18, wherein

the fuse element is capable of experiencing arcing as a result of an opening being created in at least a portion of the fuse element,

the opening having two ends,

the dielectric material forces arcing between the two ends **of the opening** to traverse a path consistent with the non-linear form.

24. **(Amended)** The method of claim 23, wherein

the arcing causes formation of a conductive path along a surface of at least portion of the dielectric material,

the at least a portion of the dielectric material is positioned between an area bounded by the prepared fuse element and a line connecting ~~the~~ two ends **of the fuse element**.

27. **(Amended)** The method of claim 24, wherein the forced arcing between the two ends **of the opening** to traverse the path introduces an increased amount of dielectric separation.

33. **(Amended)** A method of increasing dielectric separation between at least two terminals of a fuse element that experience arcing, the method comprising:

preparing the fuse element in a substantially non-linear form;

coupling the fuse element between at least two conductive endcaps, the at least two conductive endcaps being coupled to the corresponding at least two terminals;

enclosing the fuse element in a dielectric material**, wherein**

at least a portion of the dielectric material is positioned between an area bounded by said prepared fuse element and a line connecting the at least two

endcaps, and

said fuse element is separated from said portion of said dielectric material by a space along a length of said fuse element.

Claim 36 has been cancelled.

39. (**Amended**) The method of claim 33, wherein

the arcing causes formation of a conductive path along a surface of at least portion of the dielectric material~~,~~

~~**the at least a portion of the dielectric material is positioned between an area bounded by the prepared fuse element and a line connecting the at least two endcaps**~~.

42. (**Amended**) The method of claim 33, wherein

the fuse element experiences arcing as a result of an opening being created in at least a portion of the fuse element,

the opening having two ends,

the dielectric material forces arcing between the two ends **of the opening** to traverse a path consistent with the non-linear form.

43. (**Amended**) The method of claim 42, wherein the forced arcing between the two ends **of the opening** to traverse the path introduces an increased amount of dielectric separation.

48. (**Amended**) The method of claim 42, wherein creating the opening in said at least the portion of the fuse element causes an arc, the arc being formed between the two ends **of the opening**.

49. (**Amended**) A fuse comprising:

a fuse element prepared in a substantially non-linear form, wherein at least a portion of the fuse element is capable of experiencing arcing as a result of excessive current flowing through the fuse element;

means for increasing a dielectric separation to impede the arcing**, wherein said means for increasing said dielectric separation is separated from said fuse element by a space along a length of said fuse element**.

69. (**Amended**) A method of impeding arcing, said arcing occurring across a gap formed in a fuse element by said arcing, the method comprising:

creating the gap in the fuse element, the gap being created as a result of heat generated in response to excessive current flowing through the fuse element, the fuse element being prepared in a substantially non-linear form; and

forcing the arcing across the gap to traverse a path consistent with the non-linear form**, wherein**

said fuse element is enclosed by a dielectric material, and

at least a portion of said dielectric material is positioned between an area bounded by said fuse element prepared in the substantially non-linear form and a line connecting two ends of said fuse element, the two ends being formed by said opening, wherein said portion of dielectric is separated from said fuse element by a space along a length of said fuse element.

Claims 71 and 72 have been cancelled.

73. (**Amended**) The method of claim ~~72~~ 71, wherein the at least portion of the dielectric material comprises a superior dielectric material.

74. (**Amended**) The method of claim ~~72~~ 71, wherein the path is consistent with a shape of the at least portion of dielectric material.

75. (**Amended**) The method of claim ~~72~~ 71, wherein the arcing causes formation of a conductive path along a surface of the at least portion of the dielectric material.